

REMARKS

Interview Summary

An interview was conducted with the examiner. The parties discussed the attached amended claims in relation to the Eagles reference cited by the examiner. The examiner agreed that the amended claims are believed novel over Eagles. Further consideration is required in relation to the Fye reference (US 3,381,711).

Claim rejections 35 USC §112 / Objections to the specification for new matter / Objections to the drawings

The claim rejections /objections are believed moot in light of the cancellation of the pending claims. The term “helical” is not employed in the newly submitted claims.

Claim rejections 35 USC §102

As discussed with the examiner, Eagles does not disclose a spiral pipe section wherein the spiral section is arranged to have an inherent capacity for spring-like compression and extension, and that the longitudinal compensation of length is effected by this spring-like compression and extension of the spiral rather than by swivel joints. Eagles discloses straight pipe sections connected by swivel joints in a “lazy tongs” arrangement. The new claims specifically exclude the use of such swivel joints.

Claim rejections 35 USC §103

The newly submitted claims are believed non-obvious in light of Eagles. Swivel joints as taught by Eagles are a weak point in a fluid transport system, requiring constant maintenance and increasing the risk of leakage, especially in the case of the transport of cryogenic fluids. It is not believed obvious to one skilled in the art of transferring fluids between movable structures that rigid pipe sections could be arranged in a non-articulating spiral such that the spiral itself would act as a length compensator due to spring-like compression.

New claim 18 contain the feature of the pipe section being substantially rigid and being made of a material of sufficient rigidity that the pipe section will maintain its spiral shape and parallel relationship with the crane boom under the combined weight of the pipe itself and its fluid contents. This believed to distinguish from the Fye reference which discloses a non-rigid pneumatic hose arranged in a flexible coil. It is not believed that one skilled in the art would modify Fye to comprise a substantially rigid spiral pipe section, as this would make Fye unsuitable for its intended purpose, namely an easily extendible air hose for use in for example a workshop.